

WE CLAIM:

1. A children's ride-on vehicle, comprising:

a body having a seat adapted to receive a child;

a plurality of wheels rotatably coupled to the body, wherein the plurality of wheels includes a driven wheel assembly and a steerable wheel assembly;

a steering assembly having a steering mechanism positioned for actuation by a child sitting on the seat and operatively connected to the steerable wheel assembly to transmit user-selected steering inputs to the steerable wheel assembly; and

a drive assembly, comprising:

a battery-powered motor assembly adapted to drive the rotation of the driven wheel assembly to propel the vehicle along a riding surface;

at least one user input device that is positioned for actuation by a child sitting on the seat and adapted to receive a user input selecting a selected rotational input; and

an electronic speed controller adapted to regulate at least one of the timing and the rate at which the selected rotational input is transmitted to the driven wheel assembly.

2. The children's ride-on vehicle of claim 1, wherein the electronic speed controller is adapted to delay for a predetermined time period the transmission of the selected rotational input to the driven wheel assembly.

3. The children's ride-on vehicle of claim 2, wherein the predetermined time period is more than one second.

4. The children's ride-on vehicle of claim 2, wherein the predetermined time period is more than two seconds.

5. The children's ride-on vehicle of claim 1, wherein the electronic speed controller is adapted to regulate the rate at which the selected rotational input is transmitted to the driven wheel assembly.

6. The children's ride-on vehicle of claim 1, wherein the electronic speed controller is adapted to regulate the rate at which the selected rotational input is transmitted to the driven wheel assembly according to a predetermined transmission profile in which the selected rotational input is incrementally transmitted to the driven wheel assembly.

7. The children's ride-on vehicle of claim 6, wherein the predetermined transmission profile includes a linear increase in the percentage of the selected rotational input that is transmitted to the driven wheel assembly.

8. The children's ride-on vehicle of claim 6, wherein the predetermined transmission profile includes a step-wise increase in the percentage of the selected rotational input that is transmitted to the driven wheel assembly.

9. The children's ride-on vehicle of claim 6, wherein the predetermined transmission profile includes a non-linear increase in the percentage of the selected rotational input that is transmitted to the driven wheel assembly.

10. The children's ride-on vehicle of claim 1, wherein the electronic speed controller is adapted to regulate the transmission of a first percentage of the selected rotational input to the driven wheel assembly upon receipt of the user input selecting the selected rotational input, and further wherein the first percentage is less than 100% of the selected rotational input.

11. The children's ride-on vehicle of claim 10, wherein the first percentage is less than 50% of the selected rotational input.

12. The children's ride-on vehicle of claim 11, wherein the first percentage is in the range of 15% and 40% of the selected rotational input.

13. The children's ride-on vehicle of claim 10, wherein the first percentage of the selected rotational input is transmitted to the driven wheel assembly, the electronic speed controller is further adapted to maintain the transmission of the first percentage for a predetermined time period and then regulate the transmission of a second percentage of the selected rotational input.

14. The children's ride-on vehicle of claim 13, wherein the second percentage is incrementally transmitted to the driven wheel assembly.

15. The children's ride-on vehicle of claim 13, wherein the second percentage is transmitted to the driven wheel assembly according to a predetermined transmission profile.

16. The children's ride-on vehicle of claim 15, wherein the predetermined transmission profile includes a linear increase in the percentage of the selected rotational input that is transmitted to the driven wheel assembly.

17. The children's ride-on vehicle of claim 15, wherein the predetermined transmission profile includes a step-wise increase in the percentage of the selected rotational input that is transmitted to the driven wheel assembly.

18. The children's ride-on vehicle of claim 15, wherein the predetermined transmission profile includes a non-linear increase in the percentage of the selected rotational input that is transmitted to the driven wheel assembly.

19. The children's ride-on vehicle of claim 1, wherein the electronic speed controller includes both hardware and software components.

20. The children's ride-on vehicle of claim 19, wherein the electronic speed controller includes a microprocessor, and further wherein the electronic speed controller is adapted to regulate the actuations of the motor assembly through microprocessor-based duty cycle ramping.

21. The children's ride-on vehicle of claim 19, wherein the electronic speed controller includes a microprocessor adapted to regulate the transmission of the selected rotational input through pulse width modulation of the actuation of the motor assembly.

22. The children's ride-on vehicle of claim 1, wherein the body is a reduced-scale version of an adult-sized vehicle.

23. The children's ride-on vehicle of claim 1, wherein the body is at least substantially formed from molded plastic.

24. The children's ride-on vehicle of claim 1, wherein upon actuation, the motor assembly is adapted to generate a rotational input that is transmitted to the driven wheel assembly, and further wherein the electronic speed controller is adapted to control electronically the actuation of the motor assembly to regulate the transmission of the rotational input.

25. The children's ride-on vehicle of claim 24, wherein the electronic speed controller is adapted to delay for a predetermined time period after receipt of the user input selecting the selected rotational input the transmission of the rotational input to the driven wheel assembly.

26. The children's ride-on vehicle of claim 25, wherein the predetermined time period is more than one second.

27. The children's ride-on vehicle of claim 25, wherein the predetermined time period is more than two seconds.

28. The children's ride-on vehicle of claim 1, wherein the electronic speed controller is adapted to regulate the rate at which the rotational input is transmitted to the driven wheel assembly.

29. The children's ride-on vehicle of claim 28, wherein the electronic speed controller is adapted to regulate the rate at which the rotational input is transmitted to the driven wheel assembly according to a predetermined transmission profile in which the transmitted rotational input increasingly transmitted to the driven wheel assembly until the transmitted rotational input is at least substantially equal to the selected rotational input.

30. The children's ride-on vehicle of claim 29, wherein the predetermined transmission profile includes a linear increase in the percentage of the selected rotational input that is transmitted to the driven wheel assembly.

31. The children's ride-on vehicle of claim 29, wherein the predetermined transmission profile includes a step-wise increase in the percentage of the selected rotational input that is transmitted to the driven wheel assembly.

32. The children's ride-on vehicle of claim 29, wherein the predetermined transmission profile includes a non-linear increase in the percentage of the selected rotational input that is transmitted to the driven wheel assembly.

33. The children's ride-on vehicle of claim 1, wherein the electronic speed controller is further adapted to regulate the transmission of the selected rotational input responsive at least in part to one or more selected characteristics of the drive assembly.

34. The children's ride-on vehicle of claim 33, wherein the one or more selected characteristics of the drive assembly includes at least one selected characteristic that corresponds to a selected direction of rotation of the driven wheel assembly.

35. The children's ride-on vehicle of claim 33, wherein the one or more selected characteristics of the drive assembly includes at least one selected characteristic that corresponds to a selected rate of rotation of the driven wheel assembly.

36. The children's ride-on vehicle of claim 1, wherein the electronic speed controller is further adapted to regulate the transmission of the selected rotational input responsive at least in part to one or more actual characteristics of the drive assembly.

37. The children's ride-on vehicle of claim 36, wherein the drive assembly includes at least one sensor adapted to measure the one or more actual characteristics.

38. The children's ride-on vehicle of claim 37, wherein the one or more actual characteristics corresponds to the rate of rotation of the driven wheel assembly when the user input selecting the selected rotational input is received by the electronic speed controller.

39. The children's ride-on vehicle of claim 37, wherein the one or more actual characteristics corresponds to the direction of rotation of the driven wheel assembly when the user input selecting the selected rotational input is received by the electronic speed controller.